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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/312,121	05/14/1999	TIMOTHY HALL ADDINGTON	A-5035	2127

5642 7590 06/21/2004

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EXAMINER	
SHANG, ANNAN Q	
ART UNIT	**PAPER NUMBER**
2614	16

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/312,121	ADDINGTON, TIMOTHY HALL	
	Examiner	Art Unit	
	Annan Q Shang	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 04/05/04 have been fully considered but they are not persuasive.

With respect to independent claims 1, 9, 10, 12, 18 and 21, Applicant argues that the Office Action cannot ignore the distinction and conflate of "subnet connection" and an "Internet Protocol (IP) connection," and that both **Fijolek et al (6,510,162)** and **Maeshima et al (6,092,113)**, either alone or in combination, fail to teach the step of "establishing a subnet connection."

In response, Examiner disagrees, since Applicant defines on page 5, line 3-8, of the specification, that a subnet connection is a logical connection to external network 205 from the subscriber television system 101, which is another network and furthermore "establishing of subnet connection 210 includes configuring the external network 205 to send IP data to and receive IP data from the subscriber television system headend 105."

As discussed in the last Office Action, and repeated below, the primary reference Fijolek, teaches a system and method for managing channel usage in a data over cable system, which includes a cable television network 14 an TRTS 26 or Headend connected to a data network 28, such as LAN, WAN, Internet or Intranet (col. 5, lines 44-65) and a cable modem 16 that communicates to data network 28 via cable network 14 (col. 6, lines 25-37). Fijolek, data over cable system, fails to explicitly teach establishing "a subnet connection" or "a logical connection" for transporting IP data from

a server in the headend to data network 28. However, **Maeshima** teaches this limitation, where a router 300A constructs or establishes a virtual private network (VPN), or "logical connection" or "subnet connection" or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59). Hence it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Maeshima into the system of Fijolek to include a router at the Headend to establish a logical connection or IP tunnel for transporting of IP data between the data network 28 and the cable television network 14, the motivation being to assure or reserve bandwidth for the user when connection is established as taught by Maeshima. The teaching of Fijolek and Maeshima clearly meets the claimed limitation of independent claims 1, 9, 10, 12, 18 and 21, including establishing a logical connection between an external network 205 and the system 210 as defined in the specification, as such the rejection is maintained and repeated below. This Office Action is made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-32, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fijolek et al (6,510,162)** in view of **Maeshima et al (6,092,113).**

As to claim 1, note the **Fijolek et al** reference figures 1 and 2, disclose a system and method for managing channel usage in a data over cable system and further disclose a method for transporting Internet Protocol (IP) data over a subscriber television system including a headend, a transmission network, and a plurality of Home Communication Terminals (HCT), with at least one HCT authorized for receiving the IP data. The claimed method comprising the steps of...is met as follows:

the claimed "establishing..." is met by Headend or TRTS 26 (figs. 1, 7 and col. 4, lines 40-57 and col. 5, line 43-col. 6, line 12), note that the Headend or TRTS 26 establishes a connection for transporting IP data from a server, DHCP proxies 15, in the Headend or TRTS 26 to Data Net 28 "external network," which is different from the transmission network, Cable Net 14, where the DHCP proxies 15, in the Headend receives, via PSTN 22 or Cable Net 14, at the Headend 26 a request for an IP connection from Customer Premise Equipment (CPE) 18 via Cable Modem (CM) 16, "an authorized HCT," (col. 5, lines 7-29 and line 66-col. 6, line 12),

the claimed "assigning at the Headend an IP..." is met by the DHCP 15 (col. 6, lines 1-12), note that the DHCP 15 assigns IP address to the authorized HCT, CM 16 for the duration of the IP connection, the claimed "establishing a route for IP data...is met by Headend 26, note figs. 4, 5 and col. 11, lines 8-col. 12, line 8, note that Headend establishes a route for the IP data from CM 16, to the server, DHCP server 15 which assigns addresses and from the DHCP server 15 to the CM 16 over Cable Net 14 "a transmission network," where at least a portion of the route for IP data is adapted to carry a plurality of IP datagrams destined for a plurality of unicast IP addresses (col. 7,

line 52-col. 8, line 12 and line 25-45), note further that the CM 16 after initialization (col. 9, lines 13-44), establishes an IP link to TRAC 24 and begins upstream communications with CMTS 12 via DHCP layer 66 at the Headend 26, to complete a data connection path that allows CM 16 to receive data from Data Net 28 via CMTS 12 and the Cable Net 14, and send return data to Data Net 28 via TRAC 24 and PSTN 22, transmits from the TRAC 24 at Headend 26 to the CM 16, information regarding the route for the IP connection (col. 8, lines 25-45), and communicates between the CM 16 and Data Net 28, via the route and the data connection, and releasing the route and assigned IP address upon termination of the IP connection (col. 7, lines 18-64).

Fijolek fails to explicitly teach establishing a subnet connection or logical connection for transporting IP data from a server in the headend to the external network.

However, note **Maeshima et al** reference figure 1, disclose method for constructing a virtual private network (VPN), or "logical connection" or "subnet connection" where a router 300A establishes VPN or logical connection or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Maeshima into the system of Fijolek in order to provide a router in the Headend for establishing logical connection or virtual connection by virtually constructing a dedicated line(s) on the Internet between Client(s)

and specific server(s) to assure and/or reserve bandwidth in each host and/or in each sub-network or each Subscriber.

As to claim 2, Fijolek further discloses where the IP data is encapsulated and communicated between the CM 16 and Headend or TRTS 26, within the digital data stream that includes television programming, note col. 4, lines 25-35, col. 6, lines 15-54 and col. 7, lines 18-33.

As to claim 3, Fijolek further discloses where the IP data is encapsulated into Motion Picture Experts Group (MPEG), transport packets, col. 6, lines 15-54, col. 7, lines 18-33 and col. 9, line 19-35.

As to claim 4, Fijolek further discloses where the IP address includes correlating the assigned IP address to Media Access Control (MAC) address associated with the CM 16, note col. 6, line 55-col. 7, line 2.

As to claim 5, Fijolek further discloses where the step of establishing the route for the IP data includes establishing and using a portion of a continuous feed session for IP data from the DHCP server 15 to the authorized CM 16, note col. 18, line 66-col. 19, line 21, note that the DHCP server 15 directs and coordinates the flow of data, with he various IP data, between the Headend 26 and the CM 16 and creates a continuous feed session within the Cable Net system.

As to claim 6, Fijolek further discloses where the step of establishing and releasing the route for IP data comprises, Digital Storage Media-Command and Control (DSM-CC) signaling techniques, note col. 7, lines 18-66 and col. 12, lines 35-64.

As to claim 7, Fijolek further discloses where establishing a route includes using a protocol for the IP data from the authorized CM 16 to DHCP 15, using slot allocation, note figure 7 and col. 18, line 60-col. 19, line 21.

As to claim 8, Fijolek further discloses where establishing a route for IP data includes establishing and using a session key uniquely associated with the route, note col. 7, lines 18-32.

As to claim 9, note the **Fijolek et al** reference figures 1 and 2, disclose a system and method for managing channel usage in a data over cable system and further disclose a method for transporting Internet Protocol (IP) data over a subscriber television system including a headend, a transmission network, and a plurality of Home Communication Terminals (HCT), with at least one HCT authorized for receiving the IP data. The claimed method comprising the steps of...is met as follows:

the claimed "establishing connection..." is met by Headend or TRTS 26, (figs. 1, 7 and col. 4, lines 40-57 and col. 5, line 43-col. 6, line 12), note that the Headend 26 establishes a connection for transporting IP data from a server, DHCP proxies 15, in the Headend 26 to Data Net 28 "external network," which is different from the transmission network, Cable Net 14, where the DHCP proxies 15, in the Headend receives, via PSTN 22 or Cable Net 14, at the Headend 26 a request for an IP connection from an authorized HCT, Customer Premise Equipment (CPE) 18 via Cable Modem (CM) 16 "an authorized HCT" (col. 5, lines 7-29 and line 66-col. 6, line 12), where the DHCP proxies 15, in the Headend receives, via PSTN 22 or Cable Net 14, at the Headend 26 a request for an IP connection from Customer Premise Equipment (CPE) 18 via Cable

Modem (CM) 16 (col. 5, lines 7-29 and line 66-col. 6, line 12), which includes a Media Access Control (MAC) address associated with CM 16 and CPE 18 (fig. 6, col. 6, line 64-line 7 and col. 17, line 53-col. 18, line 2);

the claimed "assigning at the Headend an IP..." is met by the DHCP 15 (col. 6, lines 1-12), note that the DHCP 15 assigns IP address to CM 16 for the duration of the IP connection;

the claimed "maintaining in a database in the headend..." is inherent to the DHCP 15 (col. 6, lines 1-12 and lines 55-67), note that in order for the DHCP tell which computer device to assigning IP address the DHCP maintains a database in the Headend and to enable it to map the various physical addresses, MAC addresses of the Cable Net advices, CM 16 to the various assigned addresses by DHCP 15, and further to enable bi-directional communication between the Cable Net 14 and Data Net 28 (col. 4, lines 40-54);

the claimed "establishing a route for IP data...is met as follows; the HCT, CM 16 after initialization (col. 9, lines 13-44), establishes an IP link to TRAC 24 and begins upstream communications with CMTS 12 via DHCP server layer 66 at the Headend 26, to complete a virtual data connection that allows CM 16 to receive data, within a downstream bandwidth, from Data Net 28 via CMTS 12 and the Cable Net 14, and send return data to Data Net 28 via TRAC 24 and PSTN 22 (figs. 4, 5 and col. 11, lines 8-col. 12, line 8), and further the downstream bandwidth includes at least a portion of a television program, and the downstream route for IP data is adapted to carry a plurality of IP datagrams destined for a plurality of unicast IP addresses (col. 7, line 52-col. 8,

line 12, line 25-45), Headend 26, further establishes an upstream route for IP data from the authorized HCT, CM 16, the server, DHCP 15, over the transmission network, Cable Net 14, within an upstream bandwidth, where the upstream route uses a protocol selected from data slot allocation (fig. 7 and col. 18, line 60-col. 19, line 21), and transmitting from the Headend 26, to CM 16 information regarding the downstream route and the upstream route for the IP connection, where the Headend 26, communicates the IP data between the CM 16 and the server, DHCP 15 via the downstream route, Cable Net 14 and the upstream route PSTN 22 or Cable Net 14, where the IP data is encapsulated into packets, note 7, lines 18-66, and Communicates the IP data between the server, DHCP 15, and the Data Net 28, and releasing the assigned IP address, the downstream route and the upstream route upon termination of the IP connection (col. 7, lines 18-66).

Fijolek fails to explicitly teach establishing a subnet connection or logical connection for transporting IP data from a server in the headend to the external network.

However, note **Maeshima et al** reference figure 1, disclose method for constructing a virtual private network (VPN), or "logical connection" or "subnet connection" where a router 300A establishes VPN or logical connection or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Maeshima into the system of Fijolek in

order to provide a router in the Headend for establishing logical connection or virtual connection by virtually constructing a dedicated line(s) on the Internet between Client(s) and specific server(s) to assure and/or reserve bandwidth in each host and/or in each sub-network or each Subscriber.

As to claim 10, note the **Fijolek et al** reference figures 1 and 2, disclose a system and method for managing channel usage in a data over cable system and further disclose a method of creating and removing Internet Protocol data communication paths within a television system. The claimed method comprising...is met as follows:

the claimed "establishing a connection..." is met by Headend or TRTS 26 (figs. 1, 7 and col. 4, lines 40-57 and col. 5, line 43-col. 6, line 12), note that the Headend 26 establishes a connection for transporting IP data from a server, DHCP proxies 15, in the Headend 26 to Data Net 28 "external network," which is different from the transmission network, Cable Net 14, where the DHCP proxies 15, in the Headend receives, via PSTN 22 or Cable Net 144, at the Headend 26 a request for an IP connection from Customer Premise Equipment (CPE) 18 via Cable Modem (CM) 16 "an authorized HCT," (col. 5, lines 7-29 and line 66-col. 6, line 12);

the claimed "establishing a continuous feed session..." is met by Headend 26 (col. 18, line 66-col. 19, line 21), note that the DHCP server 15 directs and coordinates the flow of data, with he various IP data, between the Headend 26 and the CM 16 and creates a continuous feed session within the Cable Net system, where the DHCP proxies 15, in the Headend receives, via PSTN 22 or Cable Net 144, at the Headend 26

a request for an IP connection from Customer Premise Equipment (CPE) 18 via Cable Modem (CM) 16 (col. 5, lines 7-29 and line 66-col. 6, line 12);

the claimed "assigning at the Headend an IP..." is met by the DHCP 15 (col. 6, lines 1-12), note that the DHCP 15 assigns IP address to CM 16 for the duration of the IP connection;

the claimed "designating a route for IP data...is met by Headend 26 (figs. 4, 5 and col. 11, lines 8-col. 12, line 8), note that Headend designates a route for the IP data from CM 16, to the server, DHCP server 15 which assigns addresses and from the DHCP server 15 to the CM 16 over transmission network of Cable Net 14, where at least a portion of the route for IP data is adapted to carry a plurality of IP datagrams destined for a plurality of unicast IP addresses (col. 7, line 52-col. 8, line 12 and line 25-45), note further that the CM 16 after initialization, note col. 9, lines 13-44, establishes an IP link to TRAC 24 and begins upstream communications with CMTS 12 via DHCP layer 66 at the Headend 26, to complete a data connection that allows CM 16 to receive data from Data Net 28 via CMTS 12 and the Cable Net 14, and send return data to Data Net 28 via TRAC 24 and PSTN 22, transmits from the TRAC 24 at Headend 26 to the CM 16 information regarding the route for the IP connection (col. 8, lines 25-45), and communicates between the CM 16 and the external network, Data Net 28, via the route and the data connection, and releasing the route and assigned IP address upon termination of the IP connection (col. 7, lines 18-64).

Fijolek fails to explicitly teach establishing a subnet connection or logical connection for transporting IP data from a server in the headend to the external network.

However, note **Maeshima et al** reference figure 1, disclose method for constructing a virtual private network (VPN), or "logical connection" or "subnet connection" where a router 300A establishes VPN or logical connection or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Maeshima into the system of Fijolek in order to provide a router in the Headend for establishing logical connection or virtual connection by virtually constructing a dedicated line(s) on the Internet between Client(s) and specific server(s) to assure and/or reserve bandwidth in each host and/or in each sub-network or each Subscriber.

Claim 11 is met as previously discussed with respect to claim 6.

As to claim 12, note the **Fijolek et al** reference figures 1 and 2, disclose a system and method for managing channel usage in a data over cable system and further disclose an application server for establishing, using, and deleting an Internet Protocol data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network. The claim application server comprising...is met as follows:

the claimed "means for establishing...." is inherent to DHCP proxies 15 (figs. 1, 7 and col. 4, lines 40-57 and col. 5, line 43-col. 6, line 12), note that the DHCP proxies 15, is a means for establishing a communication route between Data Net 28 "an external network," and the application server, DHCP proxies 15, located in the Headend or TRTS 26 of the television system, Cable Net 14, for communicating Internet Protocol (IP) data between the DHCP proxies 15, and Data Net 28, using an IP address from the DHCP proxies 15, and releasing the external communication route (col. 7, lines 18-66),

the claimed "a processor..." is inherent to DHCP proxies 15 (figs. 6, 7 and col. 11, line 55-col. 12, line 42), note that the processor within the DHCP 15 after receiving a request from Cable Modem (CM) 16 for connection to Data Net 28, requests the establishment of an internal communications route between the CM 16 requesting an IP connection and DHCP proxies 15, for the duration of the IP connection, for releasing the internal communications route upon termination of the IP connection (col. 7, lines 11-66), and for communicating the IP data between the CM 16 and DHCP proxies 15, over the internal communications route, where the IP address is used for communicating to Data Net 28 associated with the CM 16, for the duration of the IP connection and is released upon termination of the IP connection, where a portion of the internal communications route is adapted to carry a plurality of IP datagrams destined for a plurality of unicast IP addresses, note col. 7, line 52-col. 8, line 12, line 25-45,

the claimed "means for encapsulating and unencapsulating the IP data...is inherent to DHCP proxies 15 (col. 7, lines 18-57), note that DHCP 15 encapsulates and

unencapsulates to various IP data in order to establish connection or communicate between the various network devices, the various CM 16 and the DHCP 15.

Fijolek fails to explicitly teach establishing a subnet connection or logical connection for transporting IP data from a server in the headend to the external network.

However, note **Maeshima et al** reference figure 1, disclose method for constructing a virtual private network (VPN), or "logical connection" or "subnet connection" where a router 300A establishes VPN or logical connection or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Maeshima into the system of Fijolek in order to provide a router in the Headend for establishing logical connection or virtual connection by virtually constructing a dedicated line(s) on the Internet between Client(s) and specific server(s) to assure and/or reserve bandwidth in each host and/or in each sub-network or each Subscriber.

Claim 13 is met as previously discussed with respect to claim 3.

Claim 14 is met as previously discussed with respect to claim 4.

Claim 15 is met as previously discussed with respect to claim 5.

Claim 16 is met as previously discussed with respect to claim 7.

Claim 17 is met as previously discussed with respect to claim 6.

As to claim 18, note the **Fijolek et al** reference figures 1 and 2, disclose a

system and method for managing channel usage in a data over cable system and further disclose an application server for establishing and using an Internet Protocol data communications route within a television system between the application server and an authorized Home Communications Terminal and between the application server and an external network. The claimed application server comprising...is met as follows:

the claimed "means for establishing..." is inherent to DHCP proxies 15 (figs. 1, 7 and col. 4, lines 40-57 and col. 5, line 43-col. 6, line 12), note that the DHCP proxies 15, is a means for establishing a communication route between Data Net 28 "an external network," and the application server, DHCP proxies 15, located in the Headend or TRTS 26 of the television system, Cable Net 14, and a means for receiving a request for an Internet Protocol (IP) connection from an authorized Home Communications Terminal, Cable Modem (CM) 16 (col. 11, line 56-col. 12, line 4);

the claimed "means for requesting establishment..." is inherent to DHCP proxies 15 (col. 7, lines 18-67 and col. 11, line 56-col. 12, line 4), note that the DHCP 15 after receiving a request from Cable Modem (CM) 16 for connection to Data Net 28, requests the establishment of an internal communications route, between the CM 16 requesting an IP connection and DHCP proxies 15, for IP data within the television system, Cable Net 14, between the application server, DHCP proxies 15, and Cable Modem (CM) 16 "the authorized Home Communications Terminal," where the internal communications route requested is based on the type of IP data connection required by the authorized CM 16, where at least a portion of the internal communications route is adapted to carry

a plurality of IP datagrams destined for a plurality of unicast IP addresses (col. 7, line 52-col. 8, line 12, line 25-45);

the claimed "means for assigning..." is inherent to DHCP proxies 15 (col. 6, lines 1-12), note that the DHCP 15 assigns IP address to the authorized CM 16 for the duration of the IP connection;

the claimed "a memory for maintaining a database..." is inherent to DHCP proxies 15 (col. 6, lines 1-12 and lines 55-67), note that in order for the DHCP tell which computer device to assigning IP address the DHCP 15 maintains a database in the Headend and to enable it to map the various physical addresses, MAC addresses of the Cable Net advices, CM 16, to the various assign IP addresses by DHCP, and further to enable bi-directional communication between the Cable Net 14 and Data Net 28 (col. 4, lines 40-54);

the claimed "means for encapsulating the IP data..." is inherent to DHCP 15, (col. 7, lines 18-57), note that the DHCP 15 encapsulates the IP data from the external network, Data Net 28, for communication between the CM 16 and the unencapsulates the IP data received from the CM 16 for communication to the Data Net 28, and further releases the internal communications route for IP data upon termination of the IP connection, (fig. 7, col. 7, lines 18-57 and col. 18, line 60-col. 19, line 21).

Fijolek fails to explicitly teach establishing a subnet connection or logical connection for transporting IP data from a server in the headend to the external network.

However, note **Maeshima et al** reference figure 1, disclose method for constructing a virtual private network (VPN), or "logical connection" or "subnet connection" where a router 300A establishes VPN or logical connection or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Maeshima into the system of Fijolek in order to provide a router in the Headend for establishing logical connection or virtual connection by virtually constructing a dedicated line(s) on the Internet between Client(s) and specific server(s) to assure and/or reserve bandwidth in each host and/or in each sub-network or each Subscriber.

Claim 19 is met as previously discussed with respect to claim 3.

Claim 20 is met as previously discussed with respect to claim 6.

As to claim 21, note the **Fijolek et al** reference figures 1 and 2, disclose a system and method for managing channel usage in a data over cable system and further disclose a subscriber system for communicating Internet Protocol data with an external network. The claimed system comprising...is met as follows:

the claimed "a Home Communication Terminal..." is met by Cable Modem (CM) 16 (fig. 1, 2 and col. 5, lines 6-35, col. 6, line 25-37 and col. 7, lines 18-43), note that the CM 16 interface 48 is data link layer 42, PPP, layer use to encapsulate datagrams over the communication link (note also col. 15, lines 10-21);

the claimed "an interface to an external..." is met by DHCP server 15 (figs. 1, 7 and col. 4, lines 40-53 and col. 5, line 66-col. 6, line 12), note that the DHCP is an interface to Data Net 28, and CM 16, for communicating the Internet Protocol (IP) data with the Data Net 28, the where the connection identifies at least one IP address that will be used between the Data Net 28 and the Headend or TRTS 26;

the claimed "means for establishing, maintaining, communicating over, and releasing..." is inherent to DHCP server 15 (col. 7, lines 18-66 and col. 11, line 43-col.12, line 8), note that the DHCP 15, establishes, maintains, communicates and releases communications route form the application server, DHCP proxies 15, to CM 16 within the subscriber television system, where at least a portion of the internal communications route is adapted to carry a plurality of IP datagrams destined for a plurality of unicast IP addresses (col. 7, line 52-col. 8, line 12, line 25-45);

the claimed "means for encapsulating the IP data..." is inherent to DHCP 15 (col. 7, lines 18-57), note that the DHCP 15 encapsulates the IP data from the external network, Data Net 28, for communication between the CM 16 and the unencapsulates the IP data received from the CM 16 for communication to the Data Net 28, and further releases the internal communications route for IP data upon termination of the IP connection, and a transmission network, Cable Net 14, for connecting the CM 16, to the Headend or TRTS 26 (fig. 7, col. 7, lines 18-57 and col. 18, line 60 col. 19, line 21).

Fijolek fails to explicitly teach establishing a subnet connection or logical connection for transporting IP data from a server in the headend to the external network.

However, note **Maeshima et al** reference figure 1, disclose method for constructing a virtual private network (VPN), or "logical connection" or "subnet connection" where a router 300A establishes VPN or logical connection or IP tunnel for transporting IP data from LAN-A to LAN-B (figs. 1, 9(a), 9(b), 10, col. 3, lines 1-33 and col. 4, lines 45-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Maeshima into the system of Fijolek in order to provide a router in the Headend for establishing logical connection or virtual connection by virtually constructing a dedicated line(s) on the Internet between Client(s) and specific server(s) to assure and/or reserve bandwidth in each host and/or in each sub-network or each Subscriber.

Claim 22 is met as previously discussed with respect to claim 3.

Claim 23 is met as previously discussed with respect to claim 4.

As to Claim 24, the claimed "subscriber television system controller... is inherent the Cable Modem 16, as previously discussed with respect to claim 1.

As to Claim 25, Fijolek further discloses where the continuous feed session supports multicast IP data from the external network, note col. 15, line 10-col. 16, line 39.

As to claim 26, Fijolek further discloses where the means for establishing, maintaining, communicating over, and releasing the communications route uses at least a portion of the continuous feed session, note col. 7, lines 18-66 and col. 11, line 43-col.12, line 8, note that the DHCP 15, establishes, maintains, communicates and

releases communications route form the application server, DHCP proxies 15 to CM 16, using at least a portion of a continuous feed session.

Claim 27 is met as previously discussed with respect to claim 7.

As to claim 28, Fijolek further discloses where the means for establishing, maintaining, communicating over, and releasing the communications route allows the Data Net 28 using DHCP to assign an IP address to the CM 16, note col. 7, lines 18-66 and col. 11, line 43-col.12, line 8.

Claim 29 is met as previously discussed with respect to claim 4.

Claim 30 is met as previously discussed with respect to claim 8.

As to claim 31, Fijolek further discloses where the means for establishing, maintaining, communicating over, and releasing the communications route is responsive to the tuning of the CM 16 and modifies the communications route based on the CM 16, note col. 8, lines 1-45 and col. 9, lines 13-35.

Claim 31 is met as previously discussed with respect to claim 4.

Claim 32 is met as previously discussed with respect to claim 6.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hrastar et al (6,272,150) disclose cable modem map display for network management of a cable data delivery system.

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q Shang** whose telephone number is **703-305-2156**. The examiner can normally be reached on **700am-500pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W Miller** can be reached on **703-305-4795**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the **Electronic Business Center (EBC) at 866-217-9197 (toll-free).**

Annan Q. Shang.

JOHN MILLER
SUPERVISORY PATENT EXAMINER
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